

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re Application of: Philip KELLER	Confirmation No.: 2466
Application No.: 09/413,821	Group Art Unit: 2611
Filed: October 7, 1999	Examiner: Bocure, Tesfaldet

For: AUTOMATIC OUTPUT DRIVE LEVEL CONTROL IN HOME
NETWORKING TRANSCEIVER

APPEAL BRIEF

Honorable Commissioner for Patents
Alexandria, VA 22313-1450

Dear Sir:

This Appeal Brief is submitted in support of the Notice of Appeal dated June 3, 2009.

I. REAL PARTY IN INTEREST

The real party in interest of the present application is GlobalFoundries Inc.

II. RELATED APPEALS AND INTERFERENCES

Appellants are not aware of any related appeals or interferences.

III. STATUS OF THE CLAIMS

Claims 1 through 16 are pending in this application. Claims 5 through 16 stand allowed. This appeal is taken from the final rejection of claims 1 through 4 in the Office Action dated March 4, 2009 (hereinafter "Office Action").

IV. STATUS OF AMENDMENTS

No claim amendment has been filed subsequent the March 4, 2009 Office Action.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention relates to a home telephone network that uses existing residential wiring such as twisted pair telephone line wiring as network media. A home network is illustrated broadly in Figure 1, exemplified by network stations 12a and 12b that are connected to twisted pair telephone wiring 14. The network may support, for example, an Ethernet standard. Figure 1 is explained more specifically at page 4 of the specification.

Home network architecture should overcome difficulties that are inherent in twisted pair wiring. For example, lines can be noisy due to spurious use of electrical devices in the home, as well as from transients caused by on-hook and off-hook usage of the telephones. Further, different network stations may carry signals that have peak-to-peak values of different order of magnitudes, thus causing distortion of transmitted data. Additional obstacles are described at page 2 of the specification.

The claimed invention provides a home networking transceiver with an automatic output drive level control system. Independent claim 1 recites the following:

1. A method of configuring a transceiver (20, Figure 3) having an output driver (52, Figure 3, Figure 5) for driving an output terminal (TxRx Pos, Neg) to provide data transmission via residential twisted pair wiring (14, Figure 1), the method comprising the steps of:

setting a DC level at the output terminal for supplying a transmit signal of a prescribed level to the residential twisted pair wiring (page 7, last paragraph – see Figure 5),

comparing (comparator 102, Figure 5) a controlled value representing the DC level with a predetermined threshold level (page 8, second paragraph) , and

controlling (drive control 104, Figure 5) the output driver until the controlled value is equal to the threshold level (page 8, line 25 – page 9, line 14).

Due to process variations, the output characteristics of the transceiver 20, such as the output drive level, substantially vary from run to run. To correct any deviation of the output drive level from a proper level, the transceiver comprises the automatic output drive level control system 100. Comparator circuit 102 (Figure 5) compares the signal at its controlled input with a threshold level and produces a level control signal representing the difference between the compared signals. The level control signal is supplied to the drive control circuit 104 that controls the output driver 52 so as to reduce the level at the TxRx_Pos terminal if the signal at the controlled input of the comparator 102 is higher than the threshold level, or to increase the level at the TxRx_Pos terminal if the signal at the controlled input of the comparator 102 is lower than the threshold level. The control procedure continues until the signal at the controlled input of the comparator 102 becomes equal to the threshold level.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 1 through 4 are obvious under 35 U.S.C. § 103 based on U.S. patent 6,377,666 (hereinafter “Cheng”).

VII. ARGUMENT

CLAIMS 1 THROUGH 4 ARE NOT RENDERED OBVIOUS UNDER 35 U.S.C. § 103 BECAUSE CHENG DOES NOT DISCLOSE OR SUGGEST SETTING A DC LEVEL AT AN OUTPUT TERMINAL FOR SUPPLYING A TRANSMIT SIGNAL OF A PRESCRIBED LEVEL TO RESIDENTIAL TWISTED PAIR WIRING, COMPARING A CONTROLLED VALUE REPRESENTING THE DC LEVEL WITH A PREDETERMINED THRESHOLD LEVEL, AND CONTROLLING AN OUTPUT DRIVER UNTIL THE CONTROLLED VALUE IS EQUAL TO THE THRESHOLD LEVEL.

The Administrative Procedures Act (APA) mandates the Patent Office to make the necessary findings and provide an administrative record showing the evidence on which the findings are based, accompanied by the reasoning in reaching its conclusions. See *In re Zurko*, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001); *In re Gartside*, 203 F.3d 1305, 1314, 53 USPQ2d 1769, 1774 (Fed. Cir. 2000). In particular, the Patent Office must articulate and place on the record the “common knowledge” used to negate patentability. *In re Zurko*, *id.*; *In re Lee*, 277 F.3d 1338, 1344-45, 61 USPQ2d 1430, 1434-35 (Fed. Cir. 2002).

The initial burden of establishing a *prima facie* basis to deny patentability to a claimed invention under any statutory provision always rests upon the Examiner. *In re Mayne*, 104 F.3d 1339, 41 USPQ2d 1451 (Fed. Cir. 1997); *In re Deuel*, 51 F.3d 1552, 34 USPQ2d 1210 (Fed. Cir. 1995); *In re Bell*, 991 F.2d 781, 26 USPQ2d 1529 (Fed. Cir. 1993); *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In rejecting a claim under 35 U.S.C. § 103, the Examiner is required to provide a factual basis to support the obviousness conclusion. *In re Warner*, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); *In re Lunsford*, 357 F.2d 385, 148 USPQ 721 (CCPA 1966); *In re Freed*, 425 F.2d 785, 165 USPQ 570 (CCPA 1970). The record must present articulated reasoning with rational underpinnings to justify a conclusion of obviousness, *KSR*

Int'l Co. v. Teleflex, Inc., 127 S. Ct. 1727, 82 USPQ2d 1385(2007). It is respectfully submitted that the record does not establish a reasonable basis for concluding that claims 1 through 4 would have been obvious under 35 U.S.C. § 103.

The Office Action sets out the rejection of claims 1 through 4 at paragraph 4. Elements of Cheng are identified therein as follows: transceiver unit (transmitter 115, receiver 117), line driver 207, controller 113, DACs 203, 205. It is recognized in the statement of the rejection that “[w]hat Cheng fails to teach is that the controller having a comparator for comparing the controlled value levels with a predetermined threshold value in order to generate the driving high and low power level as in claim 1.” It is then concluded (last paragraph of page 3 of the Office Action) that such feature would have been obvious.

No rationale for this conclusion was stated. Moreover, the stated conclusion is directed to whether it would have been obvious to include a comparator in the Cheng controller to accommodate two modes of operation disclosed in Cheng, i.e., generating the high and low power modes. There is no discussion in the Office Action in explanation of why the Examiner believes that modification of the Cheng system in the manner proposed would have resulted in, or made obvious, the requirements of claim 1 and its dependent claims 2-4. No further explanation in support of the conclusion of obviousness is presented in paragraph 7 of the Office Action. Paragraph 8 of the Office Action, which purports to respond to the arguments such as included herein, appears unintelligible. Appellant can find nothing therein that significantly refutes patentability.

The control logic of Cheng does not compare a controlled value representing the DC level set at the output transmit terminal with a predetermined threshold signal to control the output driver until the controlled value is equal to the threshold level. It is submitted that, even if a

comparator were to be added to the Cheng controller as proposed in the Office Action, a person of ordinary skill in the art, upon consideration of the entire Cheng disclosure, would not have found it obvious to set a DC level at an output terminal for supplying a transmit signal of a prescribed level to the residential twisted pair wiring, compare a controlled value representing the DC level with a predetermined threshold level, and control an output driver until the controlled value is equal to the threshold level, all as required by claim 1 and its dependent claims 2-4.

VIII. CONCLUSION AND PRAYER FOR RELIEF

For the foregoing reasons, it is submitted that claims 1 through 4 are patentably distinguishable from Cheng and that the rejection of these claims under 35 U.S.C. § 103 is not viable. Appellants request the Honorable Board to reverse the rejection.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 504213 and please credit any excess fees to such deposit account.

Respectfully Submitted,

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August 24, 2009
Date

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IX. CLAIMS APPENDIX

1. A method of configuring a transceiver having an output driver for driving an output terminal to provide data transmission via residential twisted pair wiring, the method comprising the steps of:

setting a DC level at the output terminal for supplying a transmit signal of a prescribed level to the residential twisted pair wiring,
comparing a controlled value representing the DC level with a predetermined threshold level,
and
controlling the output driver until the controlled value is equal to the threshold level.

2. The method of claim 1, wherein the output driver is controlled during initialization of the transceiver.

3. The method of claim 1, wherein the output driver is controlled for a high power level and a low power level set at the output terminal.

4. The method of claim 1, wherein the output driver is controlled to establish an output drive level required by the HPNA specification.

5. A transceiver for providing data communications over residential twisted pair wiring, comprising:

an output driver having an output for supplying a transmit signal of a prescribed level to the residential twisted pair wiring, and

an output drive control system for comparing a DC level set at the output of the output driver with a predetermined threshold signal to control the output driver so as to maintain the transmit signal at the prescribed level.

6. The transceiver of claim 5, wherein the output drive control system comprises a comparator circuit for comparing a controlled signal representing the DC level set at the output with the threshold signal.

7. The transceiver of claim 6, wherein the output drive control system further comprises a drive control circuit responsive to the comparator circuit for controlling the output driver until the controlled signal is equal to the threshold signal.

8. The transceiver of claim 7 further comprising input circuitry for receiving an incoming signal from the residential wiring.

9. The transceiver of claim 8, wherein the output drive control system further comprises a multiplexer for connecting the input circuitry to the comparator circuit during a normal mode of operation, and for supplying the controlled signal representing the DC level during an output drive level control mode of operation.

10. The transceiver of claim 9, wherein the output drive level control mode of operation is carried out during initialization of the transceiver.

11. A method of configuring a transceiver having an output driver for driving an output terminal to provide data transmission via residential twisted pair wiring, the method comprising the steps of:

setting a DC level at the output terminal for supplying a transmit signal of a prescribed level to the residential twisted pair wiring,
comparing a controlled value representing the DC level with a predetermined threshold level,
and
controlling the output driver until the controlled value is equal to the threshold level, wherein the step of comparing is carried out by a comparator responsive to an incoming signal from the residential twisted pair wiring during a normal mode of operation.

12. The method of claim 11, wherein the comparator is responsive to the controlled value during an output driver control mode of operation carried out to correct a deviation at an output of the output driver from a proper level.

13. The method of claim 11, wherein the output driver is controlled during initialization of the transceiver.

14. The method of claim 11, wherein the output driver is controlled for a high power level and a low power level set at the output terminal.

15. The transceiver of claim 5, wherein the output drive control system comprises a comparator for comparing the DC level set at the output of the output driver with the predetermined threshold signal, the comparator being responsive to an incoming signal from the residential twisted pair wiring during a normal mode of operation.

16. The transceiver of claim 15, wherein the comparator is responsive to the DC level during an output driver control mode of operation carried out to correct a deviation at an output of the output driver from a proper level.

X. EVIDENCE APPENDIX

Appellants are unaware of any evidence that is required to be submitted in the present Evidence Appendix.

XI. RELATED PROCEEDINGS APPENDIX

Appellants are unaware of any related proceedings that are required to be submitted in the present Related Proceedings Appendix.